

FIG. 1

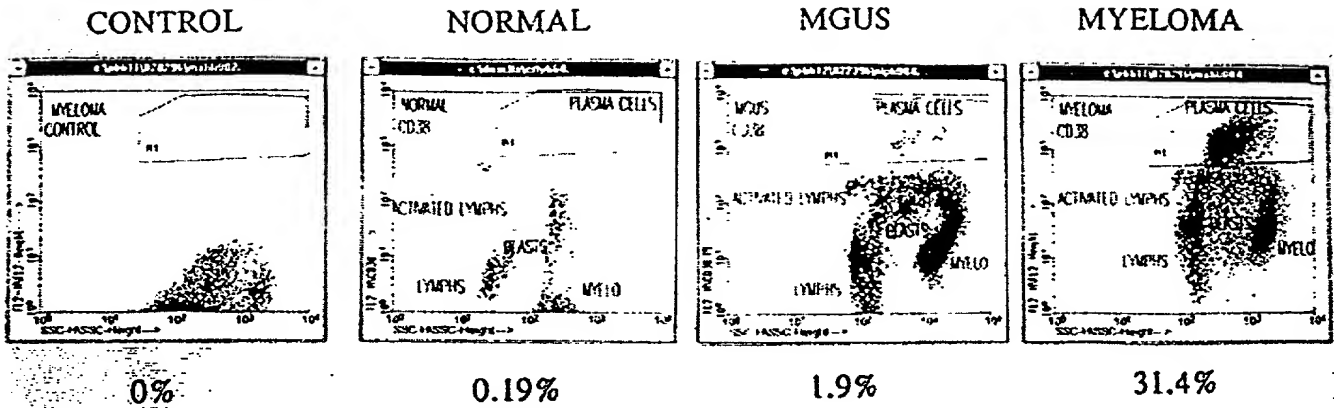


FIG. 2

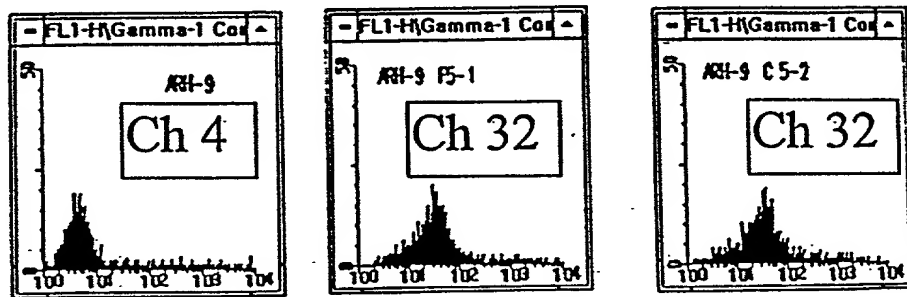


FIG. 3

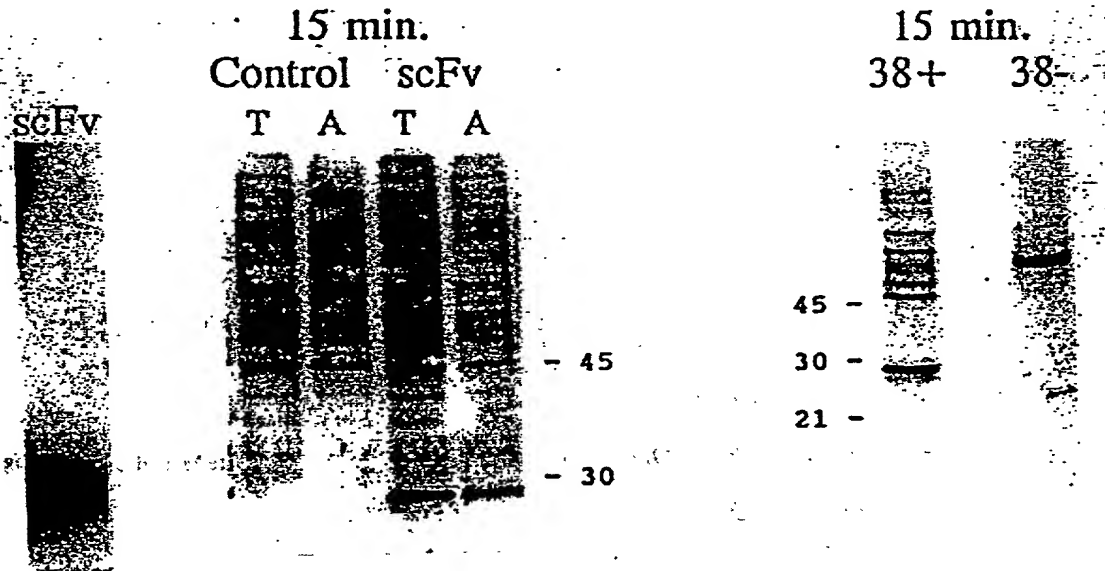


FIG. 4

ANTI-CD38 scFv

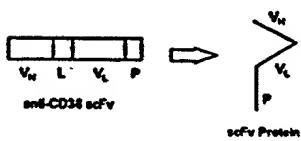


FIG. 5

ANTI-CD38 scFv



FIG. 6

[illegible]

FIG. 6 (con't)

TGTGACCCCAAGCGGTTCAGAGGTCCTTTCCAGACCTCACCAGCCCTCACTATACCTCTCC

T L G S P V S R K G S G V A G S D M E R -
H W V R Q S P G K G L E W L G V I W R G -
T G F A S L Q E R V W S G W E * Y G E V -

| | | | | |
|-------|-----|------|------|--|
| | N | | | |
| CB C | l B | H | B S | |
| vsTAv | aBs | HD i | ss f | |
| iosli | Ibp | pd n | at a | |
| RFeuJ | IvG | he 4 | Jy N | |
| IIIII | III | II I | II I | |

181 TGAAGCACAGACTACAATGCAGCTTTTCATGTCCAGACTGAGCATCACCAAGGACAACCTC 240

ACCTTCGTGTCTGATGTTACCTCGAAAGTACAGGTCTGACTCGTAGTGGTTCTCTGTTGAG

W K H R L Q C S F H V Q T E H H Q G Q L -
G S T D Y N A A F M S R L S I T K D N S -
E A Q T T M Q L S C P D * A S P R T T P -

| | | | |
|---|----|--------|---|
| C | | CC C | T |
| v | MD | v a Av | s |
| i | sr | i c li | p |
| J | ea | R 8 uJ | R |
| I | II | I I II | I |

241 CAAGAGCCAAGTTTTCTTTAAAATGAACAGTCTGCAAGCTGATGACACTGCCATATACTT 300

GTTCTCGGTTCAAAGAAATTTTACTTGTCTGACAGGTTCTGACTACTGTGACGGTATATGAA

Q E P S F L * N E Q S A S * * H C H I L -
K S Q V F F K M N S L Q A D D T A I Y F -
R A K F S L K * T V C K L M T L P Y T S -

| | |
|----|-------------------|
| | S H S |
| BC | a CBaN A NB Pa |
| SV | B uBvsels vHlsDsu |
| ci | f 9siaIat apaash9 |
| GJ | i 6rJJIIy IhIJaaG |
| II | I IIIIIVI IIVIIII |

301 CTGTGCCAAAACCTTGATTACGACGGGCTATGCTATGGACTACTGGGGCCCAAGGGACCAC 360

GACACGGTTTTTGAAGTAATGCTGCCCCGATACGATACCTGATGACCCCGGTTCCCTGGTG

L C Q N L D Y D G L C Y G L L G P R D H -
C A K T L I T T G Y A M D Y W G Q G T T -
V P K P * L R R A M L W T T G A K G P R -

| | | |
|--------|-------|-------------|
| BMT | B | S |
| Bsas B | BBs | a |
| step s | ssuDM | AEu D |
| | M A | MM AE M v A |

| | | | | | | |
|--------|-------|-----|-------|-----|---|-------|
| eBI4 m | mm3dn | n c | nw cc | w i | c | cc3 p |
| RIIS F | AB6el | l i | lo ii | o J | i | iiA n |
| IIII I | IIIII | I I | II II | I I | I | III I |

GGTCACCGTCTCCTCAGGTGGAGGCGGTTTCAGGCGGAGGTGGCTCTGGCGGTGGCGGATC

FIG. 6 (con't)

361 -----+-----+-----+-----+-----+-----**420**

CCAGTGGCAGAGGAGTCCACCTCCGCCAAGTCCGCCTCCACC GAGACCGCCAACCGCCTAG

G H R L L R W R R F R R R W L W R W R I -
V T V S S G G G G S G G G S G G G S -
S P S P Q V E A V Q A E V A L A V A D R -

| | | B | | | | | | T | |
|---|-----|------------|----|---|-----|---|---------|--------|--|
| | | Bs | | | | | | MTt | |
| | | sp | | | | | | | |
| H | | CBi1 | B | B | | B | | BHHash | |
| i | A T | AvaH2DFSS | Bs | M | s B | H | siiepl | | |
| n | l a | linK8doaa | cm | n | m f | p | annI41 | | |
| 4 | w q | uJIA6ekcX | cA | l | A a | h | X4fY5l | | |
| I | I I | IIIIIIIIII | II | I | I I | I | IIIIIII | | |

421 GGACATCGAGCTCACTCAGTCTCCATCCTCCTTTCTGTATCTCTAGGAGACAGAGTCAC 480
-----+-----+-----+-----+-----+-----+-----+
CCTGTAGCTCGAGTGAGTCAGAGGTAGGAGGAAAAGACATAGAGATCCTCTGTCTCAGTG

G H R A H S V S I L L F C I S R R Q S H -
D I E L T Q S P S S F S V S L G D R V T -
T S S S L S L H P P F L Y L * E T E S P -

| | | | | |
|---|---|---|-----|-----|
| | | | E | E |
| | C | | CcS | c S |
| P | V | M | voc | o c |
| l | i | n | iRr | R r |
| e | R | l | JIF | I F |
| I | I | I | III | I I |

481. CATTACTTGCAAGGCAAGTGAGGACATATATAATCGGTTAGCCTGGTATCAGCAGAAACC 540
GTAATGAACGTTCCGTTCACTcCTGTATATATTAGCCAATCGGACCATAGTCGTCTTTGG

H Y L Q G K * G H I * S V S L V S A E T -
I T C K A S E D I Y N R L A W Y Q Q K P -
L L A R Q V R T Y I I G * P G I S R N Q -

| | | | | | | |
|-------|---|---|--|---|---|---|
| A | B | C | | C | | N |
| VBS | V | M | | V | B | B |
| rfa | i | s | | i | f | s |
| IaJy | J | e | | R | i | r |
| IIIII | I | i | | I | I | I |
| | | | | | | V |

541 AGGAAATGCTCCTAGGCTCTTAATATCTGGTGCAACCAAGTTTGGAAACTGGGGTTCCTTC 600
TCCTTTACGAGGATCGAGAATTATAGACCACGTTGGTCAAACCTTTGACCCCAAGGAAG

R K C S * A L N I W C N Q F G N W G S F -
G N A P R L L I S G A T S L E T G V P S -
E M L L G S * Y L V Q P V W K L G F L Q -

| | | | | | | | |
|----|---|------|---|--|----|----|---|
| | | S | | | E | | |
| H | T | Ba T | | | C | M | |
| it | s | suDs | A | | Do | Bb | B |
| nf | p | t3pp | 1 | | d5 | bo | s |

fi R YAnR w e7 sI r

FIG. 6 (con't)

II I IIII I II II I
 / / / / / /
 601 AAGATTTCAGTGGCAGTGGATCTGGAAAGGATTACACTCTCAGCATTACCAAGTCTTCAGAC
 -----+-----+-----+-----+-----+-----+ 660
 TTCTAAGTCACCGTCACCTAGACCTTTCTAATGTGAGAGTCGTAATGGTCAGAAGTCTG
 K I Q W Q W I W K G L H S Q H Y Q S S D -
 R F S G S G S G K D Y T L S I T S L Q T -
 D S V A V D L E R I T L S A L P V F R L -

 E H
 M c i
 b o n c U M A
 o 5 c j Rsb a BM v
 I 7 I e sca e sn a
 I I I I aaC I ll I
 III I II I
 // /

661 TGAAGATGTTGCTACTTATTACTGTCAACAGTATTGGAGTACTCCTACGTTCCGGTGGAGG
 -----+-----+-----+-----+-----+ 720
 ACTTCTACAACGATGAATAATGACAGTTGTGCATAACCTCATGAGGATGCAAGCCACCTCC
 * R C C Y L L L S T V L E Y S Y V R W R -
 E D V A T Y Y C Q Q Y W S T P T F G G G -
 K M L L L I T V N S I G V L L R S V E G -

S H
 Na C B B B C BB Ga
 lu C Av s s AsEvAssEdenTT
 a9 j li m c coaicioailoaa
 IG e uJ F G iFeJiEFgIituu
 VI I II I I IIIIIIIIIIIII
 / / / / / / /

721 GACCAAGCTGGAAATCAAACGGGCGGCCGC
 -----+-----+-----+ 750
 CTGGTTCGACCTTTAGTTTGCCCCGCCGGCG

D Q A G N Q T G G R -
 T K L E I K R A A -
 P S W K S N G R P -